

REMARKS/ARGUMENTS

Claims 29-30 and 32-50 remain pending in this application. Claims 28 and 31 have been canceled without prejudice or disclaimer. New claims 47-50 have been added.

Priority

Applicants appreciate the Examiner's acknowledgment of the claim for priority and receipt of the priority document in the parent application.

Claim Objections

Claims 43 has been amended to overcome the objection under this section.

35 U.S.C. §§102 and 103

Claims 28, 30 and 36-46 stand rejected under 35 U.S.C. §102(e) as being anticipated by Saoudi et al (U.S. Patent No. 6,448,559). Claims 28-29, 31 and 35 stand rejected under 35 U.S.C. §102(b) as being anticipated by Fetter (U.S. Patent No. Re 34,160). Further, claims 28, 32 and 34 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Schnittenhelm (U.S. Patent No. 5,125,012) in view of Fetter. These rejections are traversed as follows.

The presently claimed invention is directed to a radiological imaging apparatus that can be distinguished from the prior art in at least two features.

According to one feature, a radiation detector ring structure is provided to detect radiation from a test subject and includes a plurality of radiation detectors arranged around a bed in a ring form. An X-ray source transfer apparatus transfers an X-ray source inside this radiation detector ring structure in an axial direction of the radiation detector ring structure. This feature is recited in independent claims 29, 43 and 46.

None of the cited references disclose this feature. For example, Saoudi et al disclose a detector assembly for multi-modality PET (Positron Emission Tomography)/SPECT (Single Photon Emission Computed Tomography)/CT (Computerized Tomography) scanners. The detector assembly is arranged around a bed and each assembly has three types of scintillators that are radially arranged. An X-ray source and a collimator are arranged inside the plurality of detector assemblies. Fetter discloses a computer-assisted tomography (CAT) apparatus using a ring of stationary detectors and an X-ray source located outside the ring of stationary detectors. Schnittenhelm discloses a CAT apparatus in which an X-ray source is located outside of a plurality of radiation detectors arranged around an annular slit diaphragm 37. An annular slotted diaphragm 28 is located between the X-ray source and the annular slit diaphragm 37. A slit that lets X-rays pass therethrough is formed in the annular slit diaphragm 37 and the annular slotted diaphragm 28. However, none of these references disclose an X-ray source transfer apparatus that transfers an X-ray source inside a radiation detector ring structure in an axial direction of the radiation detector ring structure.

According to a second feature of the present invention, the radiological imaging apparatus includes an X-ray source that is placed outside the radiation detector ring structure in a direction of a radius of the radiation detector ring structure. A slit that lets X-rays radiated from the X-ray source pass through toward the inside of the radiation detector ring structure is formed between the radiation detectors of the radiation detector ring structure. Claims 32 and 33 recite this feature of the present invention.

None of the cited references disclose this feature of the present invention. As mentioned above, Schnittenhelm discloses a CAT apparatus in which an X-ray source is located outside of a plurality of radiation detectors arranged around an annular slit diaphragm 37. An annular slotted diaphragm 28 is located between the X-ray source and the angular slit diaphragm 37. A slit that lets X-rays pass therethrough is formed in the annular slit diaphragm 37 and the annular slotted diaphragm 28. However, Schnittenhelm does not disclose that a slit that lets X-rays radiated from the X-ray source pass through toward the inside of the radiation detector ring structure is formed between the radiation detectors of the radiation detector ring structure. Therefore, it is submitted that all of the pending claims patentably define the present invention over the cited art.

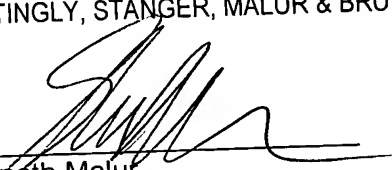
Appl. No. 10/692,820
Amendment dated January 26, 2005
Reply to Office Action of July 27, 2004

Conclusion

In view of the foregoing, Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

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